

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A method, comprising:

~~one or more communication devices configured~~ configuring a plurality of repeaters operating at a substantially identical communication frequency to coordinate transmissions of data packets and thereby function as an access point with respect to first and second mobile stations that are wirelessly communicatively coupled to the ~~one or more communication devices~~ plurality of repeaters;

determining within the ~~one or more communication devices~~ plurality of repeaters whether wirelessly transmitting first and second packets to the first and second mobile stations, respectively will create interference between the first and second packets; and

wirelessly transmitting the first and second packets to the first and second mobile stations respectively at different times when it is determined ~~whether~~ that transmitting the first and second packets will create interference ~~and in accordance therewith~~.

2. (Currently Amended) The method of claim 1, further comprising ~~the one or more communication devices~~ operating the plurality of repeaters as a communication channel in accordance with a wireless communication protocol.

3. (Cancelled)

4. (Currently Amended) The method of claim 1, further comprising scheduling, at a switch coupled to the ~~one or more communication devices~~ plurality of repeaters, transmissions of the first packet and the second packet to avoid interference that would prevent one or both of the transmissions from being received by the first and second mobile stations.

5. (Original) The method of claim 4, further comprising:
detecting whether substantially concurrent transmission of the first and second packets will cause interference prior to performing the scheduling; and
transmitting the first and second packets to the first and second mobile stations without performing the scheduling, if overlapping transmissions of the first and second packets will not cause interference.

6. (Original) The method of claim 5, wherein if substantially concurrent transmission of the first and second packets causes interference, the method further comprises transmitting the first and second packets to the first and second mobile stations respectively according to the schedule.

7. (Currently Amended) The method of claim 1, further comprising coordinately scheduling, at the ~~one or more communication devices~~ plurality of repeaters, transmissions of the first packet and the second packet to avoid interference that would prevent one or both of the transmissions from being received by the first and second mobile stations.

8. (Currently Amended) The method of claim 1, further comprising:

determining whether the first and second packets are to be transmitted ~~substantial~~
substantially simultaneously to the first and second mobile stations; and

transmitting the first and second packets to the first and second mobile stations at
different time slots to avoid the interference, if the first and second packets are selected
for substantially simultaneously transmission.

9. (Currently Amended) The method of claim 1, further comprising

maintaining in a first database information regarding whether communications of ~~the one~~
~~or more communication devices~~ one of the plurality of repeaters will interfere with each
~~other~~ another of the plurality of repeaters.

10. (Currently Amended) The method of claim 9, further comprising:

examining the first database to determine whether communications of ~~the one or~~
~~more communication devices~~ a selected one of the plurality of repeaters will interfere
with ~~each other~~ another of the plurality of repeaters; and

delaying one of the first and second packets to be transmitted by the selected
repeater to the respective mobile station if communications of ~~the one or more~~
~~communication devices~~ the selected repeater will interfere with ~~each other~~ another of the
plurality of repeaters.

11. (Original) The method of claim 9, further comprising periodically

transmitting a test packet to collect interference information.

12. (Currently Amended) The method of claim 1, further comprising maintaining in a second database a list of ~~corresponding set of communication devices associated with the first and second mobile stations respectively~~ and a corresponding plurality of repeaters that last received transmissions from the mobile stations.

13. (Currently Amended) The method of claim 12, further comprising:
examining the second database to determine whether ~~there are multiple communication devices~~ the corresponding plurality of repeaters associated with the first and second mobile stations ~~that~~, when transmitting ~~substantial~~ substantially currently, will interfere with each other; and

delaying transmissions of one of the first and second packets to the respective mobile station if the transmissions from the ~~multiple communication devices~~ corresponding plurality of repeaters associated to the first and second mobile stations will interfere with each other.

14. (Currently Amended) The method of claim 1, further comprising:
performing address translation on the first and second packets to determine respective Ethernet MAC addresses based on respective destination IP addresses of the first and second packets;

identifying ~~one or more communication devices~~ which of the plurality of repeaters is closest to the first and second mobile stations having the respective Ethernet MAC addresses;

determining whether interference will occur between the transmissions that would prevent completion of the transmissions; and

scheduling the transmissions of the first and second packets to avoid the interference if interference would occur between the transmissions.

15. (Currently Amended) A method, comprising:

receiving, at a switch, first ~~data~~ and second data packets designated for ~~delivering~~ transmission to a first mobile station and a second mobile station respectively via a plurality of repeaters transmitting on a substantially identical communication frequency;

detecting whether overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions; and

scheduling transmissions of the first and second packets via the plurality of repeaters to avoid the interference ~~when~~ if it is determined ~~if~~ that overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions; and

~~transmitting the first and second packets to one or more communication devices coupled to the switch.~~

16. (Currently Amended) The method of claim 15, wherein if overlapping transmissions of the first and second packets will not result in interference that would prevent completion of the transmissions, the method further comprises transmitting wirelessly from the ~~one or more communication devices~~ the plurality of repeaters the first and second packets to the first and second mobile stations respectively without delay.

17. (Currently Amended) The method of claim 15, wherein the ~~one or more~~ communication devices plurality of repeaters are operating as a communication channel in accordance with a wireless communication protocol.

18. (Cancelled)

19. (Currently Amended) The method of claim 15, further comprising:
performing address translation on the first and second packets to determine respective Ethernet MAC addresses based on respective destination IP addresses;
identifying ~~one or more communication devices~~ which of the plurality of repeaters is closest to the first and second mobile stations having the respective Ethernet MAC addresses;
determining whether there is an interference between overlapping wireless communications of the identified ~~one or more communication devices~~ repeater and other repeaters in the plurality of repeaters; and
performing the scheduling if there is an interference ~~among the identified one or more communication devices~~.

20. (Currently Amended) A method, comprising:
receiving, at a switch, a packet destined to a mobile station;
determining, at the switch, whether immediately transmitting the packet to the mobile station will cause an interference with other communications destined to the mobile station; and

transmitting the packet to a communication device communicatively coupled to the switch, wherein the packet is forwarded wirelessly to the mobile station when it is determined that transmitting the packet will not cause interference,

wherein the communication device and other communication devices coupled to the switch transmit at a substantially identical communication frequency and coordinate transmissions of data packets, thereby functioning ~~to function~~ as an access point with respect to the mobile station.

21. (Original) The method of claim 20, wherein the communication device and other communication devices are operating as a communication channel in accordance with a wireless communication protocol.

22. (Cancelled)

23. (Previously Presented) The method of claim 20, further comprising:

delaying the transmission of the packet to the mobile station if it is determined that an interference would occur.

24. (Original) The method of claim 23, further comprising scheduling the transmission of the packet at an alternative time slot where no other communications destined to the mobile station are occurring if it is determined that no interference would otherwise occur.

25. (Original) The method of claim 23, further comprising transmitting the packet to the mobile station without delay if it is determined that no interference would occur.

26. (Original) The method of claim 20, further comprising:
determining a communication device closest to the mobile station; and
scheduling, based in part on a location of the closest communication device, the transmission of the packet to the mobile station, such that there are no other communications occurring to the mobile station.

27. (Original) The method of claim 26, wherein determining the closest communication device comprises:

performing address translation on the packet to determine an Ethernet MAC address corresponding to a destination IP address of the packet; and

identifying a communication device associated with the mobile station having the determined Ethernet MAC address as the closest communication device.

28. (Original) The method of claim 27, wherein the address translation is performed via a table stored within the switch.

29. (Currently Amended) A system, comprising:

~~one or more~~ a plurality of communication devices coupled to a switch, the ~~one or more~~ plurality of communication devices communicating wirelessly over substantially the same communication frequency with one or more mobile stations,

wherein the ~~one or more~~ plurality of communication devices coordinate transmissions of data packets to function as an access point with respect to the one or more mobile stations, the coordinating including determining, at the switch, whether immediately transmitting the packets to the one or more mobile station via the plurality of communication devices will cause an interference with other communications to the one or more mobile stations.

30. (Currently Amended) The system of claim 29, wherein the switch manages communications between the ~~one or more~~ plurality of communication devices and the one or more mobile stations.

31. (Currently Amended) The system of claim 29, wherein the ~~one or more~~ plurality of communication devices operate as a communication channel in accordance with a wireless communication protocol.

32. (Cancelled)

33. (Currently Amended) An apparatus, comprising:

means for ~~one or more communication devices configured~~ configuring a plurality of repeaters operating at a single frequency to coordinate transmissions of data packets and thereby function as an access point with respect to first and second mobile stations that are wirelessly communicatively coupled to the ~~one or more communication devices~~ plurality of repeaters;

means for determining within the ~~one or more communication devices~~ plurality of repeaters whether wirelessly transmitting first and second packets to the first and second mobile stations, respectively will create interference between the first and second packets; and

means for wirelessly transmitting the first and second packets to the first and second mobile stations respectively at different times when it is determined ~~whether that~~ transmitting the first and second packets will create interference ~~and in accordance therewith.~~

34. (Currently Amended) An apparatus, comprising:

means for receiving, at a switch, first ~~data~~ and second data packets designated for ~~delivering transmission~~ to a first mobile station and a second mobile station respectively via a plurality of repeaters transmitting on a substantially identical communication frequency;

means for detecting whether overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions; and

means for scheduling transmissions of the first and second packets via the plurality of repeaters to avoid the interference ~~when if~~ it is determined ~~if that~~ overlapping transmissions of the first and second packets will result in interference that would prevent completion of the transmissions; ~~and~~

~~means for transmitting the first and second packets to one or more communication devices coupled to the switch.~~

35. (Currently Amended) An apparatus, comprising:

means for receiving, at a switch, a packet destined to a mobile station;

means for determining, at the switch, whether immediately transmitting the packet to the mobile station will cause an interference with other communications destined to the mobile station; and

means for transmitting the packet to a communication device communicatively coupled to the switch, wherein the packet is forwarded wirelessly to the mobile station when it is determined that transmitting the packet will not cause interference,

~~means for wherein the communication device and other communication devices coupled to the switch~~ transmit at a substantially identical communication frequency and coordinate transmissions of data packets, thereby functioning to function as an access point with respect to the mobile station.